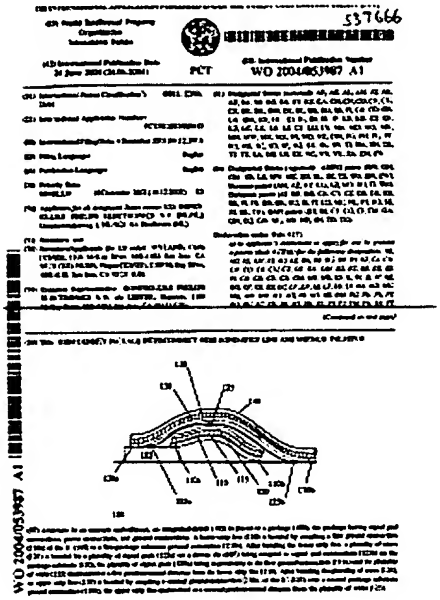
Amendments to the Specification

Please replace the title,

~~HIGH DENSITY PACKAGE INTERCONNECT WIRE BOND STRIP LINE AND METHOD THEREFOR~~

STRUCTURE HAVING INTERCONNECT WIREBONDS WITH CONTROLLED IMPEDANCE AND METHOD THERFOR

In the Abstract please replace so that extraneous information is removed per Examiner's observation and replace with text below.



In an example embodiment, an integrated circuit is placed in a package, the package having signal pad connections, power connections, and ground connections. A lower strip line is bonded by coupling a first ground connection of the IC to a first package substrate ground connection. After bonding the lower strip line, a plurality of wires is bonded by a plurality of signal pads on a device die being coupled to signal pad connections on the package substrate, the plurality of signal pads being in proximity to the first ground connection and the plurality of wires maintained at a first predetermined distance from the lower strip line. After bonding the plurality of wires, an upper strip line is bonded by coupling a second ground connection of the IC with a

second package substrate ground connection, the upper strip line maintained at a second predetermined distance from the plurality of wires.

In the Specification (page 1, lines 26-31), please make changes as shown:

The present invention is useful in controlling the impedance signal wires in a high count BGA package. By utilizing the bond wires of the package and placing ground planes above and below the bond wires, a strip line structure is created. The strip line structure is then sealed by gluing the ends of the ground planes. The bond wires are then are enclosed in a sealed space between the ground planes. ~~The bond wires in the strip line are then sealed in the air between the ground planes by enclosing them in glue between the ends of the ground planes~~. The glue prevents the introduction of molding compound

In the Specification (page 3, lines 3-25), please make changes as shown:

Referring to FIG. 1, in an example embodiment according to the present invention, a low impedance power or ground connection is made between a device die and package in close proximity to signal wire bonds. This lessens the wire bonds' impedance. In an example package 100, a die 105 has been attached. Bond wire 125 connects a signal pad 125a on the die 105 to a signal package pin 125b. A first ground pad 110a in the vicinity of the signal pad 125a has a first strip line 110 connecting the ground pad 110a on the die 105 to a package ground 110b. The first strip line 110 may be comprised of copper or other suitable conductive material. At the ground pad 110a and the package ground 110b, the copper material may be clad with gold to improve solderability and provide a lower impedance connection. The package ground may be a ground ring surrounding the die to provide convenient connection of ground wires from the device die 105 to the package ground. To prevent short circuits, there may be an insulating material applied underneath 115 or on top of 120 the strip line 110. The insulating material 115 or 120 may be selected from, but not necessarily limited to, thermoplastic, polyimide, polyamide, soldermask, polytetrafluoroethylene (PTFE), often known by the brand TEFLON of E.I. du Pont de Nemours and Company, or KAPTON brand of polyimide also of E.I. du Pont de Nemours and Company. A second ground pad 130a in the vicinity of the signal pad 125a has a second strip line 130 connecting the ground pad 130a on the die 105 to a second package ground 130b. As with the first strip line 110, the second strip line 130 may have insulating material

underneath 135 and insulating material top surface 140 of the second strip line. Although insulating material is useful in preventing short circuits, it is not required in some particular applications in which it can be assured that after bonding the various components according to the present invention, subsequent processing steps distort the bond wires and strip lines so that they contact one another. Some suitable insulating materials may be various non-conducting metallic oxides that adhere well to aluminum bond wires or to the copper strip lines. Insulating either suffices.

In the Specification (page 4, lines 4-20), please make changes as shown:

To address the increase in the dielectric constant for the configuration of FIG. 1 for the present invention implemented in a molded package, areas in which strip lines are used, may be closed off with glue. The glue prevents the movement of any molding compound into any air space created by the signal bond wire and the first and second strip lines. Referring to FIG. 2,in another example embodiment according to the present invention, a strip line arrangement 200 has a lower strip line 205 having an insulating layer 210 applied thereon and an upper strip line 225 also having an insulating layer 220 applied thereon. An air space 235 separates the lower strip line 205 and the upper strip line 225. Bond wires 215 occupy the air space 235. Glue plugs 230 protect the air space 235. The glue prevents the introduction of molding compound between the ground planes and signal wires so that the user may take advantage of the lower dielectric constant of air ($\varepsilon_r = 1.00$) compared to that ($\varepsilon_r = 4.4$) of the molding compound. Having the lower dielectric constant enables faster signal propagation. In an example embodiment, using packaging materials with a minimum porosity, and with appropriate manufacturing equipment, it is possible to construct and maintain an interior vacuum under the strip line region. In another example embodiment, a partial vacuum can be maintained. The maintaining of even a partial vacuum provides a reduction in the dielectric constant.

In other example embodiments, the space 235 may contain nitrogen, oxygen, argon xenon, neon, an aerogel material, or a foam material.